

### REMARKS

The issues outstanding in the Final Rejection mailed January 25, 2005, are the rejections under 35 U.S.C §§112 and 103. The Examiner is thanked for indicating the withdrawal of the previous objection to the specification and previous rejections under 35 U.S.C §§112 and 103. Reconsideration of the outstanding issues, in view of the following discussion, is respectfully requested.

#### Rejection Under 35 U.S.C §112

Claims 1 - 14 and 16 have been rejected under 35 U.S.C §112, second paragraph. The language of claim 1 has been clarified to make it clear that antecedent basis for the objected to term exists in the term. The scope of the claim has not been changed by the amendment, either literally or for purposes of the doctrine of equivalents. Withdrawal of the rejection is respectfully requested.

#### Rejection Under 35 U.S.C §103

Claims 1 - 16 [*sic*, 1 - 14 and 16] are rejected under 35 U.S.C §103 over Fauconet et al. WO '573. It is noted that the Office Action relies on U.S. '386, the equivalent to the WO. Indeed, it appears that a rejection under 35 U.S.C §102(e) over the '386 patent could also have been made.

It is argued, at page 4 of the Office Action, that the difference between the process of Fauconet and the instant claims is "that Fauconet does not contemplate the recovery, purification and recycling of the wash water employed in the heat exchanger or recycling of unreacted starting material and partial oxidation products such as acrolein to the oxidation reaction." This much is clearly true. Thus, the Office Action appears to agree with the argument bridging pages 9 and 10 and in the first sentence at page 10 of Applicants' previous response. Fauconet clearly focuses on further purification of acrylic acid, inasmuch as the vast majority of the disclosure is directed to processing of the bottom product of the adsorption column C<sub>1</sub>. The treatment of the material (flow (3)) from column C<sub>1</sub> in Fauconet is not given much consideration, other than to

note, at the bottom of column 7 of the '386 disclosure, that the gas flow (3) is washed with water introduced counter current wise into a washing column (L1). Patentees note that an "analytical balance of the organic compounds present in the flow (3) is carried out in the flow (4) obtained at the bottom of column (L1)." However, patentees do not state what that balance reveals and it is not known exactly what products are in flow (3), nor exactly what is the result of the washing step. The only other indication in the patent is that at column 9, lines 25 - 30, where it is indicated that non-condensed vapors exiting from column (C1), after a "first condensation", about which no detail is given, are conveyed to the bottom. It is noted that the aqueous solution obtained at the bottom of the column contains both acrylic acid and acetic acid, in very small percentages. Presumably, the remainder is water. Thus, the *other flow*, presumably exiting wash column (L1) through the unmarked flow at the top of the column, is not discussed in the Fauconet disclosure.

Although, it is quite clear that patentees do not suggest, first, the desirability of manipulating the wash so that acrolein is concentrated in one or the other of the streams, much less recycling the acrolein to the redox or catalytic oxidation. The present Office Action does not address the obviousness of such a step, instead arguing that the recycle of acrolein is not recited in the presently rejected claims. It is thus evident that a fundamental misunderstanding of the claimed process has occurred. Contrary to the allegation at page 5 of the Office Action (that "nowhere in the instant claims is the recycle of acrolein claimed"), claim 1 quite clearly recites recycle, at least in part, of flow (10) to the catalytic or redox oxidation. Flow (10) is recited in the claim as "comprising the compounds present in gas (7) ... in which most of the water and all of the acetic acid are removed in flow (9)." Gas (7) in turn, contains propylene, ultimate oxidation products of the mixture produced by the catalytic or redox oxidation, water, acetic acid *and* acrolein. This is all clearly set forth in the claim, and it thus clear that, without resort to the specification, contrary to the indication in the Office Action, flow (10) which is recycled clearly contains acrolein. The claim has been clarified in this regard but, as noted above, the scope has not been changed either literally or for the purposes of doctrine of equivalents.

Accordingly, it is respectfully maintained that the Office Action fails to establish motivation for not only recycle of water in the heat exchange, as discussed below, but for recycle

of the products of heat exchange to oxidation.

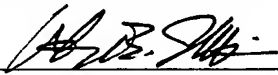
Finally, with respect to recycle of water in the heat exchanger, it is noted in Fauconet, as discussed above, that the flow exiting the wash step, through line 4, contains acrylic acid and acetic acid. It is not seen where it has been established that motivation to recycle this water, containing products, exists on the record.

Accordingly, it is respectfully submitted that the claims of the application are not obvious under 35 U.S.C §103, and withdrawal of the rejection is respectfully requested.

Should the Examiner have any questions or comments, he is cordially invited to telephone the undersigned at the number below.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,

  
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